

Atty Docket No.: JHV-050.01

Inventor: Tzyy-Chou Wu et al.  
Application No.: 10/555,669-Conf. #9879 Filing Date: May 5, 2004  
Title: ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL  
SEQUENCE, MUTANT ONCO-PROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN

Documents Filed:  
Response to Notification of Missing Requirements (2 pages in dupl.)  
Copy of Notification of Missing Requirements (3 pages)  
Petition for Four Month Extension of Time Under 37 CFR 1.136(a) (1 page in dupl.)  
Paper copy of Sequence Listing (17 pages)  
CRF diskette of Sequence Listing (1 disk)  
Statement to Support Sequence Listing submission (1 page)  
Preliminary Amendment (3 pages)  
Executed Declaration (1 page)  
Executed Powers of Attorney (2 pages)  
Notification of Change of Attorney Docket Number (1 page)

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MAR 29 2007

PATENT DEPT  
DOCKETING

Date: March 19, 2007

Via: First Class Mail  
Sender's Initials: JYA/dmn

IAP6 Rec'd PCT/PTO 22 MAR 2007

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Date: March 19, 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Wu, Tzzy-Chou et al.

Application No: 10/555,669

International Filing Date: May 5, 2004

For: ANTI-CANCER DNA VACCINE  
EMPLOYING PLASMIDS ENCODING  
SIGNAL SEQUENCE, MUTANT ONCO-  
PROTEIN ANTIGEN, AND HEAT  
SHOCK PROTEIN

Art Unit: *To be Determined*

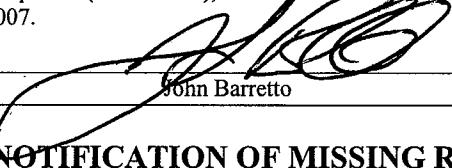
Confirmation No.: 9879

Examiner: *To be Determined*

Docket No. JHV-050.01

CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that the foregoing documents are being deposited with the United States Postal Service as First Class Mail, in an envelope addressed to Mail Stop PCT (DO/EO/US), Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450, on this date of March 19, 2007.



John Barretto

**RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS**

Mail Stop PCT (DO/EO/US)  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This paper is being filed in response to the Notification of Missing Requirements Under 35 U.S.C. 371 in the United States Designated/Elected Office (DO/EO/US) mailed on September 19, 2006, in the above-referenced application.

Enclosed is a copy of the Notification of Missing Requirements Under 35 U.S.C. 371 in the United States Designated/Elected Office (DO/EO/US); a Petition for a Four-Month Extension of Time; a paper copy of the Sequence Listing; a Computer Readable Form of the Sequence Listing (CRF); a Statement to Support the Filing and Submission of the Sequence Listing in accordance with 37 CFR §§1.821-1.825; a Preliminary Amendment; Declaration signed by Inventors Wu and Hung; and Powers of Attorney signed by Inventors Wu and Hung.

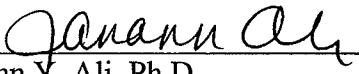
Please charge the surcharge for a small entity (\$65.00) to our **Deposit Account No. 06-1448, Reference JHV-050.01**. A copy of this Response is enclosed.

Although we believe that we have submitted the correct amount to cover the above-listed items, the Commissioner is authorized to credit any overpayment or charge any deficiencies to our **Deposit Account No. 06-1448, Reference JHV-050.01.**

Respectfully Submitted,

Date: March 19, 2007

**Customer No: 25181**  
Patent Group  
Foley Hoag LLP  
155 Seaport Blvd.  
Boston, MA 02210-2600

  
\_\_\_\_\_  
Janann Y. Ali, Ph.D.  
Reg. No. 54,958  
Agent for Applicants  
Tel. (617) 832-1000  
Fax. (617) 832-7000

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Wu, Tzyy-Chou et al.

Application No: 10/555,669

International Filing Date: May 5, 2004

For: ANTI-CANCER DNA VACCINE  
EMPLOYING PLASMIDS ENCODING  
SIGNAL SEQUENCE, MUTANT ONCO-  
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Art Unit: *To be Determined*

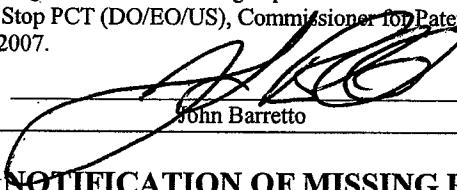
Confirmation No.: 9879

Examiner: *To be Determined*

Docket No. JHV-050.01

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John Barretto

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Commissioner for Patents  
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Foley Hoag LLP  
155 Seaport Blvd.  
Boston, MA 02210-2600

*Janann Ali*  
\_\_\_\_\_  
Janann Y. Ali, Ph.D.  
Reg. No. 54,958  
Agent for Applicants  
Tel. (617) 832-1000  
Fax. (617) 832-7000

S2L

JHU-18



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/555,669	Tzzy-Chou Wu	26148.1180

INTERNATIONAL APPLICATION NO.

PCT/US04/13756

McKenna Long & Aldridge  
 1900 K Street NW  
 Washington, DC 20006

*Missing Requirement*  
**DUE:** *11/19/07-w/2 moct* 05/05/2004 **PRIORITY DATE** 05/05/2003  
**FINAL:** *4/19/07*

CONFIRMATION NO. 9879

371 FORMALITIES LETTER



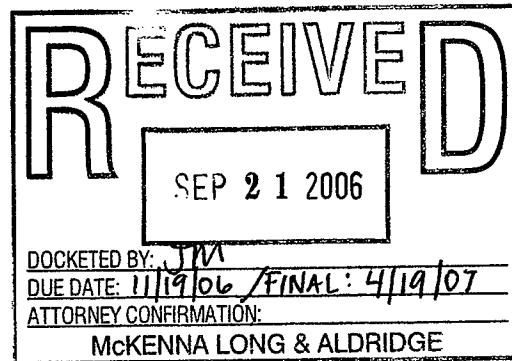
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Date Mailed: 09/19/2006

## NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Indication of Small Entity Status
- Copy of the International Application filed on 11/07/2005
- Copy of the International Search Report filed on 11/07/2005
- Preliminary Amendments filed on 11/07/2005
- Information Disclosure Statements filed on 11/07/2005
- U.S. Basic National Fees filed on 11/07/2005
- Priority Documents filed on 11/07/2005



The applicant needs to satisfy supplemental fees problems indicated below.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.492(h) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

## SUMMARY OF FEES DUE:

Total additional fees required for this application is \$65 for a Small Entity:

- **\$65** Surcharge.

- This application clearly fails to comply with the requirements of 37 CFR. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000). Applicant must provide an initial computer readable form (CRF) copy of the "Sequence Listing", an initial paper or compact disc copy of the "Sequence Listing", as well as an amendment specifically directing its entry into the application. Applicant must also provide a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). If applicant desires the sequence listing in the instant application to be identical with that of another application on file in the U.S. Patent and Trademark Office, such request in accordance with 37 CFR 1.821(e) may be submitted in lieu of a new CRF.
- A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e). If the effective filing date is on or after September 8, 2000, see the final rulemaking notice published in the Federal Register at 65 FR 54604 (September 8, 2000) and 1238 OG 145 (September 19, 2000). Applicant must provide an initial computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). If applicant desires the sequence listing in the instant application to be identical with that of another application on file in the U.S. Patent and Trademark Office, such request in accordance with 37 CFR 1.821(e) may be submitted in lieu of a new CRF.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

JOHN L ANDERSON

---

Telephone: (703) 308-9140 EXT 211

**PART 1 - ATTORNEY/APPLICANT COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/555,669	PCT/US04/13756	26148.1180

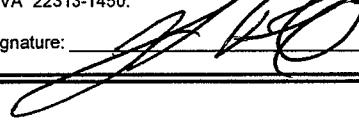
FORM PCT/D/EO/905 (371 Formalities Notice)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)</b> <b>FY 2006</b> <b>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</b>		Docket Number (Optional) JHV-050.01																		
Application Number	10/555,669-Conf. #9879	Filed May 5, 2004																		
For ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE, MUTANT ONCO-PROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN																				
Art Unit	N/A	Examiner Not Yet Assigned																		
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table> <thead> <tr> <th></th> <th>Fee</th> <th>Small Entity Fee</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td>\$120</td> <td>\$60</td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td>\$450</td> <td>\$225</td> </tr> <tr> <td><input type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td>\$1020</td> <td>\$510</td> </tr> <tr> <td><input checked="" type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td>\$1590</td> <td>\$795</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td>\$2160</td> <td>\$1080</td> </tr> </tbody> </table> <p> <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.  <input type="checkbox"/> A check in the amount of the fee is enclosed.  <input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.  <input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.  <input checked="" type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to          Deposit Account Number <u>06-1448,</u>  <u>Ref: JHV-050.01</u> I have enclosed a duplicate copy of this sheet.       </p>				Fee	Small Entity Fee	<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$120	\$60	<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$450	\$225	<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1020	\$510	<input checked="" type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1590	\$795	<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2160	\$1080
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<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2160	\$1080																		
<p>I am the <input type="checkbox"/> applicant/inventor.  <input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71.          Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).  <input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>54,958</u>  <input type="checkbox"/> attorney or agent under 37 CFR 1.34.          Registration number if acting under 37 CFR 1.34 _____</p> <p>           Signature  <u>Janann Y. Ali</u>          Typed or printed name       </p> <p>         March 19, 2007          Date          (617) 832-1000          Telephone Number       </p>																				
<p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input checked="" type="checkbox"/> Total of <u>2</u> forms are submitted.</p>																				

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Mail Stop PCT (DO/EO/US), Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: March 19, 2007

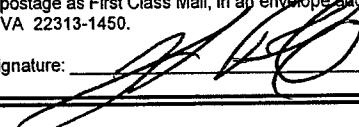
Signature:  (John Barreto)

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Application Number	10/555,669-Conf. #9879	Filed May 5, 2004
For ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE, MUTANT ONCO-PROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN		
Art Unit	N/A	Examiner Not Yet Assigned
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The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):		
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 Signature		<u>March 19, 2007</u> Date
<u>Janann Y. Ali</u> Typed or printed name		<u>(617) 832-1000</u> Telephone Number
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.		
<input checked="" type="checkbox"/> Total of <u>2</u> forms are submitted.		

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Dated: March 19, 2007

Signature:  (John Barreto)

PC/MS-DOS PATENTIN 3.3  
WU, TZZY-CHOOU et al.  
Appl. No.: 10/555,669  
Filed: 05-MAY-2004  
Data Rec: 15-FEB-2007  
Atty. Dkt. No: JHV-050.01  
(19546-5001)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket No: JHV-050.01 (19546-5001)

In re patent application of

WU, TZZY-CHOOU et al.

Serial No. 10/555,669

Filed: May 5, 2004

For: ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE,  
MUTANT ONCOPROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN

STATEMENT TO SUPPORT FILING AND SUBMISSION IN  
ACCORDANCE WITH 37 C.F.R. §§ 1.821-1.825

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
Mail Stop SEQUENCE

Sir:

In connection with a Sequence Listing submitted concurrently herewith, the undersigned hereby states that:

1. the submission, filed herewith in accordance with 37 C.F.R. § 1.821(g), does not include new matter;

2. the content of the attached paper copy and the attached computer readable copy of the Sequence Listing, submitted in accordance with 37 C.F.R. § 1.821(c) and (e), respectively, are the same.

Respectfully submitted,

Feb. 15, 2007  
Date

James A. Coburn

HARBOR CONSULTING IP SERVICES, INC.  
1500A Lafayette Road, #262  
Portsmouth, N.H. 03801  
800-318-3021

## SEQUENCE LISTING

<110> WU, TZZY-CHOOU  
HUNG, CHIEN, FU

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SIGNAL SEQUENCE, MUTANT ONCOPROTEIN ANTIGEN, AND HEAT  
SHOCK PROTEIN

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Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr  
50 55 60  
  
Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu  
65 70 75 80  
  
Asp Leu Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile Cys Ser Gln  
85 90 95  
  
Lys Pro

<210> 4  
<211> 158  
<212> PRT  
<213> Human papillomavirus

<400> 4  
Met His Gln Lys Arg Thr Ala Met Phe Gln Asp Pro Gln Glu Arg Pro  
1 5 10 15  
Arg Lys Leu Pro Gln Leu Cys Thr Glu Leu Gln Thr Thr Ile His Asp  
20 25 30  
Ile Ile Leu Glu Cys Val Tyr Cys Lys Gln Gln Leu Leu Arg Arg Glu  
35 40 45  
Val Tyr Asp Phe Ala Phe Arg Asp Leu Cys Ile Val Tyr Arg Asp Gly  
50 55 60  
Asn Pro Tyr Ala Val Cys Asp Lys Cys Leu Lys Phe Tyr Ser Lys Ile  
65 70 75 80  
Ser Glu Tyr Arg His Tyr Cys Tyr Ser Leu Tyr Gly Thr Thr Leu Glu  
85 90 95  
Gln Gln Tyr Asn Lys Pro Leu Cys Asp Leu Leu Ile Arg Cys Ile Asn  
100 105 110  
Cys Gln Lys Pro Leu Cys Pro Glu Glu Lys Gln Arg His Leu Asp Lys  
115 120 125  
Lys Gln Arg Phe His Asn Ile Arg Gly Arg Trp Thr Gly Arg Cys Met  
130 135 140  
Ser Cys Cys Arg Ser Ser Arg Thr Arg Arg Glu Thr Gln Leu  
145 150 155

<210> 5  
<211> 151  
<212> PRT  
<213> Human papillomavirus

<400> 5  
Met Phe Gln Asp Pro Gln Glu Arg Pro Arg Lys Leu Pro Gln Leu Cys  
1 5 10 15  
Thr Glu Leu Gln Thr Thr Ile His Asp Ile Ile Leu Glu Cys Val Tyr  
20 25 30  
Cys Lys Gln Gln Leu Leu Arg Arg Glu Val Tyr Asp Phe Ala Phe Arg  
35 40 45  
Asp Leu Cys Ile Val Tyr Arg Asp Gly Asn Pro Tyr Ala Val Cys Asp  
50 55 60

Lys Cys Leu Lys Phe Tyr Ser Lys Ile Ser Glu Tyr Arg His Tyr Cys  
 65 70 75 80

Tyr Ser Leu Tyr Gly Thr Thr Leu Glu Gln Gln Tyr Asn Lys Pro Leu  
 85 90 95

Cys Asp Leu Leu Ile Arg Cys Ile Asn Cys Gln Lys Pro Leu Cys Pro  
 100 105 110

Glu Glu Lys Gln Arg His Leu Asp Lys Lys Gln Arg Phe His Asn Ile  
 115 120 125

Arg Gly Arg Trp Thr Gly Arg Cys Met Ser Cys Cys Arg Ser Ser Arg  
 130 135 140

Thr Arg Arg Glu Thr Gln Leu  
 145 150

<210> 6

<211> 378

<212> DNA

<213> Human papillomavirus

<400> 6

atggcgccccc ccggcgccccg gccccgcctg ctcctcctgc tgctggcagg ccttgcacat 60  
 ggcgcctca gactctttga ggatcta atgcattggag atacacccatc attgcattgaa 120  
 tatatgttag atttgcacc agagacaact gatctctact gttatgagca attaaatgac 180  
 agctcagagg aggaggatga aatagatggt ccagctggac aagcagaacc ggacagagcc 240  
 cattacaata ttgttaacctt ttgttgcaag tgtgactcta cgcttcggtt gtgcgtacaa 300  
 agcacacacg tagacattcg tactttggaa gacctgttaa tgggcacact aggaatttgt 360  
 tgccccatct gttctcaa 378

<210> 7

<211> 127

<212> PRT

<213> Human papillomavirus

<400> 7

Met Ala Ala Pro Gly Ala Arg Arg Pro Leu Leu Leu Leu Leu Ala  
 1 5 10 15

Gly Leu Ala His Gly Ala Ser Ala Leu Phe Glu Asp Leu Ile Met His  
 20 25 30

Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu Gln Pro Glu  
 35 40 45

Thr Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn Asp Ser Ser Glu Glu  
 50 55 60

Glu Asp Glu Ile Asp Gly Pro Ala Gly Gln Ala Glu Pro Asp Arg Ala  
 65 70 75 80

His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr Leu Arg  
 85 90 95

Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu Asp Leu  
 100 105 110

Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile Cys Ser Gln Pro  
 115 120 125

<210> 8  
<211> 90  
<212> DNA  
<213> Human papillomavirus

<400> 8  
atggcggccc ccggcgcccc gggccgcgtg ctccctgctgc tgctggcagg cttgcacat 60  
ggcgccctcag cactcttga ggatctaatac 90

<210> 9  
<211> 1878  
<212> DNA  
<213> Mycobacterium tuberculosis

<400> 9  
atggctcggt cggtcggtcgat cgacacctggg accaccactt ccgtcgcttc gttctggaa 60  
ggtggcgacc cggtcgctgt cgccaaactcc gagggctcca ggaccacccc gtcaattgtc 120  
gcgttcggccc gcaacgggtga ggtgctggtc ggccagcccc ccaagaacca ggcagtgacc 180  
aacgtcgatc gcaccgtgcg ctcggtaag cgacacatgg gcagcgactg gtccatagag 240  
attgacggca agaaaatacac cgccggggag atcagcgccc gcattctgtat gaagctgaag 300  
cgcgacgccc aggcttaccc cggtgaggac attaccgacg cggttatcac gacgcccggcc 360  
tacttcaatg acgcccacg tcaaggccacc aaggaccccg gccagatcgc cggcctcaac 420  
gtgctcgcca tgcgtcaacg gccgaccgcg gccgcgtgg cttacggccct cgacaagggc 480  
gagaaggagc agcgaatctt ggtcttcgac ttgggtggtg gactttcga cttttccctg 540  
ctggagatcg gcgagggtgt ggttgggttc cgtgcacattt cggttgacaa ccacctcgcc 600  
ggcgacgact gggaccacg ggtcgtcgat tggctgggtgg acaagttcaa gggcaccacg 660  
ggcatcgatc tgaccaagga caagatggcg atgcagccgc tggggaaagc cgccgagaag 720  
gaaagatcg agctgagttc gagtcgtcc acctcgatca acctggcccta catcaccgtc 780  
gacgcccaca agaaccgggtt gttcttagac gagcagctga cccgcggca gttccaaacgg 840  
atcaactcagg acctgctgga cccgactcgc aagccgttcc agtcgggtat cgctgacacc 900  
ggcatttcgg tgcgtggat cgatcacgtt gtgcgtgttgcgttcc gggatgccc 960  
gcgggtgaccg atctgtcaa ggaactcacc ggcggcaagg aacccaaacaa gggcgtcaac 1020  
cccgatgagg ttgtcgccgtt gggagccgttcc ctgcaggccg ggtcgttccaa gggcgagggtg 1080  
aaagacgttc tgctgcttga tggtaaaaaatcccttgcgttcc gatcgagac caagggcgaa 1140  
gtgatgacca ggctcatcg ggcacacacc acgatccccca ccaagcggtc ggagactttc 1200  
accaccggcc acgacaacca accgtcggtt cagatccagg tctatcaggg ggagctgtgag 1260  
atcgccgcgc acaacaagtt gtcgggttcc ttgcgttgcgttcc cccgcaccc gccggcgccg 1320  
ccggggattt cgcagatcg ggtcactttc gacatcgac ccaacggcat tgcgtacgtc 1380  
accggcaagg acaaggccac cggcaaggag aacacgatcc gaatccagga aggctgggc 1440  
ctgtccaaagg aagacatttga cccgatgtttcc aaggacccg aagcgacgcg cgaggaggat 1500  
cgcaagcggtc gcgaggaggc cgatgttgcgttcc aatcaagccg agacatttgtt ctaccagacg 1560  
gagaagttcg tcaaagaaca ggcgttgcgttcc gagggtgggtt cgaaggttcc tgaagacacg 1620  
ctgaacaagg ttgtatcgccgc ggtggcgaa ggcgttgcgttcc aatcgatcgccg 1680  
tcggccatca agtcggcgat ggagaagctt ggcgttgcgttcc aatcgatcgccg 1740  
atctacgaag cagctcaggc tgcgttgcgttcc aatcgatcgccg 1800  
ccggggcggttcc cccacccggc ctcggctgtat gacgttgcgttcc aatcgatcgccg 1860  
ggccggggaggcccaatgttca 1878

&lt;210&gt; 10

&lt;211&gt; 625

&lt;212&gt; PRT

&lt;213&gt; Mycobacterium tuberculosis

&lt;400&gt; 10

Met	Ala	Arg	Ala	Val	Gly	Ile	Asp	Leu	Gly	Thr	Thr	Asn	Ser	Val	Val
1				5				10						15	

Ser	Val	Leu	Glu	Gly	Gly	Asp	Pro	Val	Val	Val	Ala	Asn	Ser	Glu	Gly
		20			25							30			

Ser	Arg	Thr	Thr	Pro	Ser	Ile	Val	Ala	Phe	Ala	Arg	Asn	Gly	Glu	Val
		35				40					45				

Leu	Val	Gly	Gln	Pro	Ala	Lys	Asn	Gln	Ala	Val	Thr	Asn	Val	Asp	Arg
		50			55					60					

Thr	Val	Arg	Ser	Val	Lys	Arg	His	Met	Gly	Ser	Asp	Trp	Ser	Ile	Glu
		65			70			75				80			

Ile	Asp	Gly	Lys	Lys	Tyr	Thr	Ala	Pro	Glu	Ile	Ser	Ala	Arg	Ile	Leu
		85				90					95				

Met	Lys	Leu	Lys	Arg	Asp	Ala	Glu	Ala	Tyr	Leu	Gly	Glu	Asp	Ile	Thr
		100				105					110				

Asp	Ala	Val	Ile	Thr	Thr	Pro	Ala	Tyr	Phe	Asn	Asp	Ala	Gln	Arg	Gln
		115				120					125				

Ala	Thr	Lys	Asp	Ala	Gly	Gln	Ile	Ala	Gly	Leu	Asn	Val	Leu	Arg	Ile
		130			135				140						

Val	Asn	Glu	Pro	Thr	Ala	Ala	Leu	Ala	Tyr	Gly	Leu	Asp	Lys	Gly
		145			150				155			160		

Glu	Lys	Glu	Gln	Arg	Ile	Leu	Val	Phe	Asp	Leu	Gly	Gly	Gly	Thr	Phe
		165				170					175				

Asp	Val	Ser	Leu	Leu	Glu	Ile	Gly	Glu	Gly	Val	Val	Glu	Val	Arg	Ala
					180			185			190				

Thr	Ser	Gly	Asp	Asn	His	Leu	Gly	Gly	Asp	Asp	Trp	Asp	Gln	Arg	Val
					195			200			205				

Val	Asp	Trp	Leu	Val	Asp	Lys	Phe	Lys	Gly	Thr	Ser	Gly	Ile	Asp	Leu
		210			215			220							

Thr	Lys	Asp	Lys	Met	Ala	Met	Gln	Arg	Leu	Arg	Glu	Ala	Ala	Glu	Lys
		225			230			235			240				

Ala	Lys	Ile	Glu	Leu	Ser	Ser	Ser	Gln	Ser	Thr	Ser	Ile	Asn	Leu	Pro
		245			250			255				255			

Tyr	Ile	Thr	Val	Asp	Ala	Asp	Lys	Asn	Pro	Leu	Phe	Leu	Asp	Glu	Gln
			260				265			270					

Leu Thr Arg Ala Glu Phe Gln Arg Ile Thr Gln Asp Leu Leu Asp Arg  
 275 280 285  
 Thr Arg Lys Pro Phe Gln Ser Val Ile Ala Asp Thr Gly Ile Ser Val  
 290 295 300  
 Ser Glu Ile Asp His Val Val Leu Val Gly Gly Ser Thr Arg Met Pro  
 305 310 315 320  
 Ala Val Thr Asp Leu Val Lys Glu Leu Thr Gly Gly Lys Glu Pro Asn  
 325 330 335  
 Lys Gly Val Asn Pro Asp Glu Val Val Ala Val Gly Ala Ala Leu Gln  
 340 345 350  
 Ala Gly Val Leu Lys Gly Glu Val Lys Asp Val Leu Leu Leu Asp Val  
 355 360 365  
 Thr Pro Leu Ser Leu Gly Ile Glu Thr Lys Gly Gly Val Met Thr Arg  
 370 375 380  
 Leu Ile Glu Arg Asn Thr Thr Ile Pro Thr Lys Arg Ser Glu Thr Phe  
 385 390 395 400  
 Thr Thr Ala Asp Asp Asn Gln Pro Ser Val Gln Ile Gln Val Tyr Gln  
 405 410 415  
 Gly Glu Arg Glu Ile Ala Ala His Asn Lys Leu Leu Gly Ser Phe Glu  
 420 425 430  
 Leu Thr Gly Ile Pro Pro Ala Pro Arg Gly Ile Pro Gln Ile Glu Val  
 435 440 445  
 Thr Phe Asp Ile Asp Ala Asn Gly Ile Val His Val Thr Ala Lys Asp  
 450 455 460  
 Lys Gly Thr Gly Lys Glu Asn Thr Ile Arg Ile Gln Glu Gly Ser Gly  
 465 470 475 480  
 Leu Ser Lys Glu Asp Ile Asp Arg Met Ile Lys Asp Ala Glu Ala His  
 485 490 495  
 Ala Glu Glu Asp Arg Lys Arg Arg Glu Glu Ala Asp Val Arg Asn Gln  
 500 505 510  
 Ala Glu Thr Leu Val Tyr Gln Thr. Glu Lys Phe Val Lys Glu Gln Arg  
 515 520 525  
 Glu Ala Glu Gly Gly Ser Lys Val Pro Glu Asp Thr Leu Asn Lys Val  
 530 535 540  
 Asp Ala Ala Val Ala Glu Ala Lys Ala Leu Gly Gly Ser Asp Ile  
 545 550 555 560  
 Ser Ala Ile Lys Ser Ala Met Glu Lys Leu Gly Gln Glu Ser Gln Ala  
 565 570 575

Leu Gly Gln Ala Ile Tyr Glu Ala Ala Gln Ala Ala Ser Gln Ala Thr  
580 585 590

Gly Ala Ala His Pro Gly Gly Glu Pro Gly Gly Ala His Pro Gly Ser  
595 600 605

Ala Asp Asp Val Val Asp Ala Glu Val Val Asp Asp Gly Arg Glu Ala  
610 615 620

Lys  
625

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<210> 11
<211> 2104
<212> DNA
<213> Artificial Sequence
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<220>  
<221> CDS  
<222> (1)..(2103)

<220>  
<223> Description of Artificial Sequence: Synthetic construct

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<400> 11
atg cat gga gat aca cct aca ttg cat gaa tat atg tta gat ttg caa 48
Met His Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu Gln
      1           5           10          15

```

```

cca gag aca act gat ctc tac tgt tat gag caa tta aat gac agc tca 96
Pro Glu Thr Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn Asp Ser Ser
          20           25           30

```

gag gag gag gat gaa ata gat ggt cca gct gga caa gca gaa ccg gac 144  
 Glu Glu Glu Asp Glu Ile Asp Gly Pro Ala Gly Gln Ala Glu Pro Asp  
           35                        40                        45

```

aga gcc cat tac aat att gta acc ttt tgt tgc aag tgt gac tct acg 192
Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr
      50          55          60

```

```

ctt cggttg tgc gta caa agc aca cac gta gac att cgt act ttg gaa 240
Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu
   65           70           75           80

```

```

gga tcc atg gct cgt gcg gtc ggg atc gac ctc ggg acc acc aac tcc 336
Gly Ser Met Ala Arg Ala Val Gly Ile Asp Leu Gly Thr Thr Asn Ser
          100           105           110

```

gtc gtc tcg gtt ctg gaa ggt ggc gac ccg gtc gtc gtc gcc aac tcc 384  
 Val Val Ser Val Leu Glu Gly Gly Asp Pro Val Val Val Ala Asn Ser  
           115                  120                  125

gag ggc tcc agg acc acc ccg tca att gtc gcg ttc gcc cgcc aac ggt		432	
Glu Gly Ser Arg Thr Thr Pro Ser Ile Val Ala Phe Ala Arg Asn Gly			
130	135	140	
gag gtg ctg gtc ggc cag ccc gcc aag aac cag gca gtg acc aac gtc		480	
Glu Val Leu Val Gly Gln Pro Ala Lys Asn Gln Ala Val Thr Asn Val			
145	150	155	160
gat cgc acc gtg cgc tcg gtc aag cga cac atg ggc agc gac tgg tcc		528	
Asp Arg Thr Val Arg Ser Val Lys Arg His Met Gly Ser Asp Trp Ser			
165	170	175	
ata gag att gac ggc aag aaa tac acc gcg ccg gag atc agc gcc cgc		576	
Ile Glu Ile Asp Gly Lys Lys Tyr Thr Ala Pro Glu Ile Ser Ala Arg			
180	185	190	
att ctg atg aag ctg aag cgc gac gcc gag gcc tac ctc ggt gag gac		624	
Ile Leu Met Lys Leu Lys Arg Asp Ala Glu Ala Tyr Leu Gly Glu Asp			
195	200	205	
att acc gac gcg gtt atc acg acg ccc gcc tac ttc aat gac gcc cag		672	
Ile Thr Asp Ala Val Ile Thr Thr Pro Ala Tyr Phe Asn Asp Ala Gln			
210	215	220	
cgt cag gcc acc aag gac gcc ggc cag atc gcc ggc ctc aac gtg ctg		720	
Arg Gln Ala Thr Lys Asp Ala Gly Gln Ile Ala Gly Leu Asn Val Leu			
225	230	235	240
cgg atc gtc aac gag ccg acc ggc ggc ctg gcc tac ggc ctc gac		768	
Arg Ile Val Asn Glu Pro Thr Ala Ala Leu Ala Tyr Gly Leu Asp			
245	250	255	
aag ggc gag aag gag cag cga atc ctg gtc ttc gac ttg ggt ggt ggc		816	
Lys Gly Glu Lys Glu Gln Arg Ile Leu Val Phe Asp Leu Gly Gly			
260	265	270	
act ttc gac gtt tcc ctg ctg gag atc ggc gag ggt gtc gtt gag gtc		864	
Thr Phe Asp Val Ser Leu Leu Glu Ile Gly Glu Gly Val Val Glu Val			
275	280	285	
cgt gcc act tcg ggt gac aac cac ctc ggc ggc gac gac tgg gac cag		912	
Arg Ala Thr Ser Gly Asp Asn His Leu Gly Gly Asp Asp Trp Asp Gln			
290	295	300	
cgg gtc gtc gat tgg ctg gtc gac aag ttc aag ggc acc agc ggc atc		960	
Arg Val Val Asp Trp Leu Val Asp Lys Phe Lys Gly Thr Ser Gly Ile			
305	310	315	320
gat ctg acc aag gac aag atg gcg atg cag cgg ctg cgg gaa gcc gcc		1008	
Asp Leu Thr Lys Asp Lys Met Ala Met Gln Arg Leu Arg Glu Ala Ala			
325	330	335	
gag aag gca aag atc gag ctg agt tcg agt cag tcc acc tcg atc aac		1056	
Glu Lys Ala Lys Ile Glu Leu Ser Ser Ser Gln Ser Thr Ser Ile Asn			
340	345	350	

ctg ccc tac atc acc gtc gac gcc gac aag aac ccg ttg ttc tta gac Leu Pro Tyr Ile Thr Val Asp Ala Asp Lys Asn Pro Leu Phe Leu Asp	355	360	365	1104
gag cag ctg acc cgc gcg gag ttc caa ccg atc act cag gac ctg ctg Glu Gln Leu Thr Arg Ala Glu Phe Gln Arg Ile Thr Gln Asp Leu Leu	370	375	380	1152
gac cgc act cgc aag ccg ttc cag tcg gtg atc gct gac acc ggc att Asp Arg Thr Arg Lys Pro Phe Gln Ser Val Ile Ala Asp Thr Gly Ile	385	390	395	400
tcg gtg tcg gag atc gat cac gtt gtg ctc gtg ggt ggt tcg acc cgg Ser Val Ser Glu Ile Asp His Val Val Leu Val Gly Gly Ser Thr Arg	405	410	415	1248
atg ccc gcg gtg acc gat ctg gtc aag gaa ctc acc ggc ggc aag gaa Met Pro Ala Val Thr Asp Leu Val Lys Glu Leu Thr Gly Gly Lys Glu	420	425	430	1296
ccc aac aag ggc gtc aac ccc gat gag gtt gtc gcg gtg gga gcc gct Pro Asn Lys Gly Val Asn Pro Asp Glu Val Val Ala Val Gly Ala Ala	435	440	445	1344
ctg cag gcc ggc gtc ctc aag ggc gag gtg aaa gac gtt ctg ctg ctt Leu Gln Ala Gly Val Leu Lys Gly Glu Val Lys Asp Val Leu Leu Leu	450	455	460	1392
gat gtt acc ccg ctg agc ctg ggt atc gag acc aag ggc ggg gtg atg Asp Val Thr Pro Leu Ser Leu Gly Ile Glu Thr Lys Gly Gly Val Met	465	470	475	480
acc agg ctc atc gag cgc aac acc acg atc ccc acc aag cgg tcg gag Thr Arg Leu Ile Glu Arg Asn Thr Thr Ile Pro Thr Lys Arg Ser Glu	485	490	495	1440
act ttc acc acc gcc gac gac aac caa ccg tcg gtg cag atc cag gtc Thr Phe Thr Thr Ala Asp Asp Asn Gln Pro Ser Val Gln Ile Gln Val	500	505	510	1488
tat cag ggg gag cgt gag atc gcc gcg cac aac aag ttg ctc ggg tcc Tyr Gln Gly Glu Arg Glu Ile Ala Ala His Asn Lys Leu Leu Gly Ser	515	520	525	1536
ttc gag ctg acc ggc atc ccg ccg gcg ccg cgg ggg att ccg cag atc Phe Glu Leu Thr Gly Ile Pro Pro Ala Pro Arg Gly Ile Pro Gln Ile	530	535	540	1584
gag gtc act ttc gac atc gac gcc aac ggc att gtg cac gtc acc gcc Glu Val Thr Phe Asp Ile Asp Ala Asn Gly Ile Val His Val Thr Ala	545	550	555	1632
aag gac aag ggc acc ggc aag gag aac acg atc cga atc cag gaa ggc Lys Asp Lys Gly Thr Gly Lys Glu Asn Thr Ile Arg Ile Gln Glu Gly	565	570	575	1680
				1728

tcg ggc ctg tcc aag gaa gac att gac cgc atg atc aag gac gcc gaa Ser Gly Leu Ser Lys Glu Asp Ile Asp Arg Met Ile Lys Asp Ala Glu 580 585 590	1776
gcg cac gcc gag gag gat cgc aag cgt cgc gag gag gcc gat gtt cgt Ala His Ala Glu Glu Asp Arg Lys Arg Arg Glu Glu Ala Asp Val Arg 595 600 605	1824
aat caa gcc gag aca ttg gtc tac cag acg gag aag ttc gtc aaa gaa Asn Gln Ala Glu Thr Leu Val Tyr Gln Thr Glu Lys Phe Val Lys Glu 610 615 620	1872
cag cgt gag gcc gag ggt ggt tcg aag gta cct gaa gac acg ctg aac Gln Arg Glu Ala Glu Gly Ser Lys Val Pro Glu Asp Thr Leu Asn 625 630 635 640	1920
aag gtt gat gcc gcg gtg gcg gaa gcg aag gcg gca ctt ggc gga tcg Lys Val Asp Ala Ala Val Ala Glu Ala Lys Ala Ala Leu Gly Gly Ser 645 650 655	1968
gat att tcg gcc atc aag tcg gcg atg gag aag ctg ggc cag gag tcg Asp Ile Ser Ala Ile Lys Ser Ala Met Glu Lys Leu Gly Gln Glu Ser 660 665 670	2016
cag gct ctg ggg caa gcg atc tac gaa gca gct cag gct gcg tca cag Gln Ala Leu Gly Gln Ala Ile Tyr Glu Ala Ala Gln Ala Ala Ser Gln 675 680 685	2064
gcc act ggc gct gcc cac ccc ggc tcg gct gat gaa agc a Ala Thr Gly Ala Ala His Pro Gly Ser Ala Asp Glu Ser 690 695 700	2104

<210> 12  
<211> 701  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
construct

<400> 12  
Met His Gly Asp Thr Pro Thr Leu His Glu Tyr Met Leu Asp Leu Gln  
1 5 10 15  
Pro Glu Thr Thr Asp Leu Tyr Cys Tyr Glu Gln Leu Asn Asp Ser Ser  
20 25 30  
Glu Glu Glu Asp Glu Ile Asp Gly Pro Ala Gly Gln Ala Glu Pro Asp  
35 40 45  
Arg Ala His Tyr Asn Ile Val Thr Phe Cys Cys Lys Cys Asp Ser Thr  
50 55 60  
Leu Arg Leu Cys Val Gln Ser Thr His Val Asp Ile Arg Thr Leu Glu  
65 70 75 80

Asp Leu Leu Met Gly Thr Leu Gly Ile Val Cys Pro Ile Cys Ser Gln  
                   85   90   95  
  
 Gly Ser Met Ala Arg Ala Val Gly Ile Asp Leu Gly Thr Thr Asn Ser  
                   100   105                                 110  
  
 Val Val Ser Val Leu Glu Gly Gly Asp Pro Val Val Val Ala Asn Ser  
                   115   120                                 125  
  
 Glu Gly Ser Arg Thr Thr Pro Ser Ile Val Ala Phe Ala Arg Asn Gly  
                   130   135                                 140  
  
 Glu Val Leu Val Gly Gln Pro Ala Lys Asn Gln Ala Val Thr Asn Val  
                   145   150                                 155                                 160  
  
 Asp Arg Thr Val Arg Ser Val Lys Arg His Met Gly Ser Asp Trp Ser  
                   165   170                                 175  
  
 Ile Glu Ile Asp Gly Lys Lys Tyr Thr Ala Pro Glu Ile Ser Ala Arg  
                   180   185                                 190  
  
 Ile Leu Met Lys Leu Lys Arg Asp Ala Glu Ala Tyr Leu Gly Glu Asp  
                   195   200                                 205  
  
 Ile Thr Asp Ala Val Ile Thr Thr Pro Ala Tyr Phe Asn Asp Ala Gln  
                   210   215                                 220  
  
 Arg Gln Ala Thr Lys Asp Ala Gly Gln Ile Ala Gly Leu Asn Val Leu  
                   225   230                                 235                                 240  
  
 Arg Ile Val Asn Glu Pro Thr Ala Ala Leu Ala Tyr Gly Leu Asp  
                   245   250                                 255  
  
 Lys Gly Glu Lys Glu Gln Arg Ile Leu Val Phe Asp Leu Gly Gly Gly  
                   260   265                                 270  
  
 Thr Phe Asp Val Ser Leu Leu Glu Ile Gly Glu Gly Val Val Glu Val  
                   275   280                                 285  
  
 Arg Ala Thr Ser Gly Asp Asn His Leu Gly Gly Asp Asp Trp Asp Gln  
                   290   295                                 300  
  
 Arg Val Val Asp Trp Leu Val Asp Lys Phe Lys Gly Thr Ser Gly Ile  
                   305   310                                 315                                 320  
  
 Asp Leu Thr Lys Asp Lys Met Ala Met Gln Arg Leu Arg Glu Ala Ala  
                   325   330                                 335  
  
 Glu Lys Ala Lys Ile Glu Leu Ser Ser Ser Gln Ser Thr Ser Ile Asn  
                   340   345                                 350  
  
 Leu Pro Tyr Ile Thr Val Asp Ala Asp Lys Asn Pro Leu Phe Leu Asp  
                   355   360                                 365  
  
 Glu Gln Leu Thr Arg Ala Glu Phe Gln Arg Ile Thr Gln Asp Leu Leu  
                   370   375                                 380

Asp Arg Thr Arg Lys Pro Phe Gln Ser Val Ile Ala Asp Thr Gly Ile  
 385                   390                   395                   400  
 Ser Val Ser Glu Ile Asp His Val Val Leu Val Gly Gly Ser Thr Arg  
 405                   410                   415  
 Met Pro Ala Val Thr Asp Leu Val Lys Glu Leu Thr Gly Gly Lys Glu  
 420                   425                   430  
 Pro Asn Lys Gly Val Asn Pro Asp Glu Val Val Ala Val Gly Ala Ala  
 435                   440                   445  
 Leu Gln Ala Gly Val Leu Lys Gly Glu Val Lys Asp Val Leu Leu Leu  
 450                   455                   460  
 Asp Val Thr Pro Leu Ser Leu Gly Ile Glu Thr Lys Gly Gly Val Met  
 465                   470                   475                   480  
 Thr Arg Leu Ile Glu Arg Asn Thr Thr Ile Pro Thr Lys Arg Ser Glu  
 485                   490                   495  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Wu, Tzyy-Chou et al.

Application No: 10/555,669

International Filing Date: May 5, 2004

For: ANTI-CANCER DNA VACCINE  
EMPLOYING PLASMIDS ENCODING  
SIGNAL SEQUENCE, MUTANT ONCO-  
PROTEIN ANTIGEN, AND HEAT  
SHOCK PROTEIN

Art Unit: *To be Determined*

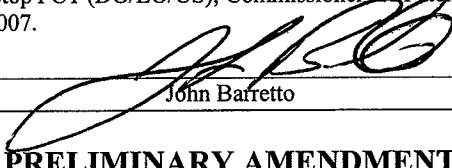
Confirmation No.: 9879

Examiner: *To be Determined*

Docket No. JHV-050.01

**CERTIFICATE OF FIRST CLASS MAILING**

I hereby certify that the foregoing documents are being deposited with the United States Postal Service as First Class Mail, in an envelope addressed to Mail Stop PCT (DO/EO/US), Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450, on this date of March 19, 2007.

  
John Barretto

**PRELIMINARY AMENDMENT**

Mail Stop PCT (DO/EO/US)  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

Prior to substantive examination of the above-referenced patent application, please amend the application as follows:

**Amendments to the specification** begin on page 2 of this paper.

**Remarks** begin on page 3 of this paper.

**AMENDMENTS TO THE SPECIFICATION**

Please replace the paragraph beginning on page 8, line 13 with the following amended paragraph:

**Figure 5A** is a schematic diagram of the pNGVL4a-Sig/E7 (detox) /HSP70 plasmid vector used for anti-tumor vaccination. Indicated are various inserts and p Fig. 5B discloses SEQ ID NOs: 17-20, respectively, in order of appearance.

Please replace the paragraph beginning on page 34, line 6 with the following amended paragraph:

A portion of SEQ ID NO: 13 ~~above vector showing by annotation annotated with~~ the Sig, E7 (detox) and HSP-70 regions is shown below (nucleotides 3951-6350 of SEQ ID NO: 13). The vector sequence is in lower case; the signal peptide (Sig) is bold italic and annotated over the lines. The E7 (detox) sequence is upper case underscored (and annotated over the lines). The HSP70 sequence is italicized and underscored[[.]] (not bolded) and is also annotated over the lines.

**REMARKS**

The foregoing amendments have been made to correct typographical errors and to insert the required SEQ ID NO identifiers associated with various listed sequences. No new matter has been added.

**CONCLUSION**

Applicants respectfully request entry of the present Preliminary Amendment. Early and favorable consideration of the application is respectfully solicited. The Examiner may address any questions raised by this submission to the undersigned at (617) 832-1000. The Commissioner is hereby authorized to charge any necessary fees to our **Deposit Order Account No. 06-1448, reference JHV-050.01**.

Respectfully submitted,  
FOLEY HOAG

Dated: March 19, 2007  
**Customer Number 25181**  
Patent Group  
Foley Hoag LLP  
155 Seaport Blvd.  
Boston, MA 02210-2600  
Tel: (617) 832-1000  
FAX: (617) 832-7000

Janann Ali  
Janann Y. Ali, Ph.D.  
Reg. No. 54,958  
Agent for Applicant

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN  
APPLICATION DATA SHEET (37 CFR 1.76)**

<b>Title of Invention</b>	ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE, MUTANT ONCOPROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN		
---------------------------	---	--	--

As the below named inventor(s), I/we declare that:

This declaration is directed to:

The attached application, or  
 Application No. PCT/US04/13756, filed on 05/05/2004,  
 as amended on 11/07/2005 (if applicable);

I/we believe that I/we am/are the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified application, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

**WARNING:**

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

All statements made herein of my/our own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

**FULL NAME OF INVENTOR(S)**

Inventor one: Tzyy-Chou Wu

Signature: John Tzyy-Chou Wu Citizen of: U.S.A.

Inventor two: Chien-Fu Hung

Signature: CFH Citizen of: Taiwan

Inventor three: \_\_\_\_\_

Signature: \_\_\_\_\_ Citizen of: \_\_\_\_\_

Inventor four: \_\_\_\_\_

Signature: \_\_\_\_\_ Citizen of: \_\_\_\_\_

Additional inventors or a legal representative are being named on \_\_\_\_\_ additional form(s) attached hereto.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

<b>Application Number</b>	10/555,669-Conf. #9879
<b>Filing Date</b>	May 5, 2004
<b>First Named Inventor</b>	Tzyy-Chou Wu
Title	ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE, MUTANT ONCO-PROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN
<b>Art Unit</b>	N/A
<b>Examiner Name</b>	Not Yet Assigned
<b>Attorney Docket No.</b>	JHV-050.01

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

Practitioners associated with the Customer Number: 25181

OR

Practitioner(s) named below:

Name	Registration Number	Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

The address associated with the above-mentioned Customer Number:

OR

The address associated with Customer Number:  

OR

Firm or Individual Name:  

Address:  

City:  

State:  

Zip:  

Country:  

Telephone:  

Email:  

I am the:

Applicant/Inventor.

Assignee of record of the entire interest. See 37 CFR 3.71.

Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

Signature	<i>Tzyy-Chou Wu</i>	Date	2-21-07
Name	Tzyy-Chou Wu	Telephone	410-614-3899
Title and Company	Inventor		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\*Total of 2 forms are submitted.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	10/555,669-Conf. #9879
Filing Date	May 5, 2004
First Named Inventor	Tzyy-Chou Wu
Title	ANTI-CANCER DNA VACCINE EMPLOYING PLASMIDS ENCODING SIGNAL SEQUENCE, MUTANT ONCO-PROTEIN ANTIGEN, AND HEAT SHOCK PROTEIN
Art Unit	N/A
Examiner Name	Not Yet Assigned
Attorney Docket No.	JHV-050.01

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

 Practitioners associated with the Customer Number: 

OR

 Practitioner(s) named below:

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as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

 The address associated with the above-mentioned Customer Number:

OR

 The address associated with Customer Number: 

OR

 Firm or Individual Name Address City State Zip Country Telephone Email 

I am the:

 Applicant/Inventor. Assignee of record of the entire interest. See 37 CFR 3.71.

Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

Signature	<i>Chien-Fu Huhg</i>	Date	<i>2/21/07</i>
Name	Chien-Fu Huhg	Telephone	<i>410-502-8215</i>
Title and Company	Inventor		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

 \*Total of  forms are submitted.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Wu, Tzyy-Chouo *et al.*

Application No: 10/555,669

International Filing Date: May 5, 2004

For: ANTI-CANCER DNA VACCINE  
EMPLOYING PLASMIDS ENCODING  
SIGNAL SEQUENCE, MUTANT ONCO-  
PROTEIN ANTIGEN, AND HEAT  
SHOCK PROTEIN

Art Unit: *To be Determined*

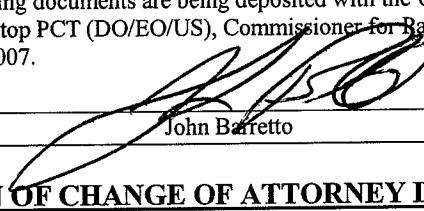
Confirmation No.: 9879

Examiner: *To be Determined*

Docket No. JHV-050.01

**CERTIFICATE OF FIRST CLASS MAILING**

I hereby certify that the foregoing documents are being deposited with the United States Postal Service as First Class Mail, in an envelope addressed to Mail Stop PCT (DO/EO/US), Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450, on this date of March 19, 2007.

  
John Barretto

**NOTIFICATION OF CHANGE OF ATTORNEY DOCKET NUMBER**

Mail Stop PCT (DO/EO/US)  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The Attorney Docket Number of the above-identified patent application has changed. Please take notice that the *correct* Attorney Docket Number for this application should now be as follows:

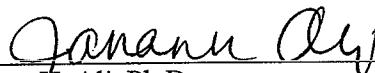
**JHV-050.01**

Please reference **JHV-050.01** on all future correspondence to the attorney of record.

Respectfully Submitted,

Date: March 19, 2007

**Customer No: 25181**  
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